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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/024,782      | 12/19/2001  | Masaji Shinjo        | JP000033            | 3212             |

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EXAMINER

ERDEM, FAZLI

ART UNIT PAPER NUMBER

2826

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/024,782

Applicant(s)

SHINJO, MASAJI

Examiner

Fazli Erdem

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8, 10, 11, 15 and 18 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 12-14, 16, 17, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 4, 6, 12, 13, 14, 16, 17, 19 and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 7, 10 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (6,452,653) in view of Jang et al. (6,522,375) further in view of Goto et al. (JP 11-183730) further in view of Korishima et al. (JP 9-288274) further in view of Broeng et al. (6,539,155) further in view of Yamamoto et al. (6,407,786).

Regarding Claims 1-3, 5, 7, 10, 11, Yamanaka et al. disclose reflector, method of fabricating the same, reflective display device comprising reflector, and method of fabricating the same where a reflector comprises a substrate provided with a plurality of projecting and depressed structures which are groups of columnar portions each serving as a basic unit and composed of plurality of minute columnar portions, which are separate from each other or at least partially connected to each other, and with a light reflecting thin film provided over the projecting and depressed structures. The reflective display device has a liquid crystal layer

Art Unit: 2826

provided between a pair of substrates. One of the pair of substrates is provided with projecting and depressed portions covered with a metal film and with a support portion for supporting the counter substrate, which are molded integrally. Yamanaka et al. fail to disclose the required projecting and depressions, the required shape configuration, the required shape configuration in the required manner, the required vertex structure, and the required vertex structure in proper configuration. However, Jang et al. disclose a reflection type liquid crystal display and a method for fabricating the same where the required projecting and depression structure are disclosed. Furthermore, Goto et al. disclose a light guide plate, surface light source using the light guide plate and liquid crystal display device where the required shape structure is disclosed. Korishima et al. disclose a liquid crystal display structure where the required shape structure in the required manner is disclosed. Additionally, Broeg et al. disclose microstructured optical fibres where the required vertex structure is disclosed. Finally, Yamamoto et al. disclose a liquid crystal display device and method of fabricating the same where the required vertex structure in the required configuration is disclosed.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required projecting and depression structures, the required shape structure, the required shape structure in the required manner, the required vertex structure, and the required vertex structure in the required configuration in Yamanaka et al. as taught by Jang et al., Goto et al., Korishima et al., Broeng et al., and Yamamoto respectively in order to have a liquid crystal display device with better performance.

Art Unit: 2826

3. Claims 8, 15 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (6,452,653) in view of Jang et al. (6,522,375) further in view of Goto et al. (JP 11-183730) further in view of Korishima et al. (JP 9-288274) further in view of Tsuda et al. (6,097,458).

Regarding Claims 8, 15, and 18, Yamanaka et al. disclose reflector, method of fabricating the same, reflective display device comprising reflector, and method of fabricating the same where a reflector comprises a substrate provided with a plurality of projecting and depressed structures which are groups of columnar portions each serving as a basic unit and composed of plurality of minute columnar portions, which are separate from each other or at least partially connected to each other, and with a light reflecting thin film provided over the projecting and depressed structures. The reflective display device has a liquid crystal layer provided between a pair of substrates. One of the pair of substrates is provided with projecting and depressed portions covered with a metal film and with a support portion for supporting the counter substrate, which are molded integrally. Yamanaka et al. fail to disclose the required projecting and depressions, the required shape configuration, the required shape configuration in the required manner and the required pixel structure. However, Jang et al. disclose a reflection type liquid crystal display and a method for fabricating the same where the required projecting and depression structure are disclosed. Furthermore, Goto et al. disclose a light guide plate, surface light source using the light guide plate and liquid crystal display device where the required shape structure is disclosed. Tsuda et al. disclose a reflector, reflective liquid crystal, display incorporating the same and method for fabricating the same where the required pixel structure is disclosed.

Art Unit: 2826

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include the required projecting and depression structures, the required shape structure, the required shape structure in the required manner and the pixel structure in Yamanaka et al. as taught by Jang et al., Goto et al., Korishima et al., and Tsuda et al. respectively in order to have a liquid crystal display device with better performance.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE  
October 20, 2003

NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800